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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.
09/271,584	03/18/99	BLUMWALD	E 4001

PATRICIA A SWEENEY
1835 PLEASANT STREET
WEST DES MOINES IA 50265

HM22/1018

EXAMINER

KUBELIK, A

ART UNIT

PAPER NUMBER

1638

9

DATE MAILED: 10/18/00

Please find below and/or attached an Office communication concerning this application or proceeding.

Commissioner of Patents and Trad marks

Office Action Summary

Application No.

09/271,584

Applicant(s)

BLUMWALD ET AL.

Examiner

Anne R. Kubelik

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 1 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136 (a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is FINAL. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-34, 48, 49 and 53-55 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☐ Claim(s) ____ is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☒ Claims 1-34, 48, 49 and 53-55 are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on ____ is/are objected to by the Examiner.
- 11) ☐ The proposed drawing correction filed on ____ is: a) ☐ approved b) ☐ disapproved.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. § 119

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d).
- a) ☐ All b) ☐ Some * c) ☐ None of the CERTIFIED copies of the priority documents have been:
1. ☐ received.
2. ☐ received in Application No. (Series Code / Serial Number) ____.
3. ☐ received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. & 119(e).

Attachment(s)

- 15) ☐ Notice of References Cited (PTO-892)
- 16) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 17) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) ____.
- 18) ☐ Interview Summary (PTO-413) Paper No(s). ____.
- 19) ☐ Notice of Informal Patent Application (PTO-152)
- 20) ☐ Other: _____

Election/Restrictions

Restriction to one of the following inventions is required under 35 U.S.C. 121:

- I. Claims 1-14, 17-32, 53-55, drawn to a nucleic acid (SEQ ID NO:1) encoding AtNHX1, recombinant molecules and vectors containing that nucleic acid, transformed plant cell and plants containing that nucleic acid, and a method of making the transformed plant, classified in class 800, subclass 278, for example.
- II. Claims 1-14, 17-32, 53-55, drawn to a nucleic acid (SEQ ID NO:3) encoding AtNHX2, recombinant molecules and vectors containing that nucleic acid, transformed plant cell and plants containing that nucleic acid, and a method of making the transformed plant, classified in class 536, subclass 23.6, for example.
- III. Claims 1-14, 17-32, 48, 53-55, drawn to a nucleic acid (SEQ ID NO:5, 7 and 17) encoding AtNHX3, recombinant molecules and vectors containing that nucleic acid, transformed plant cell and plants containing that nucleic acid, and a method of making the transformed plant, classified in class 435, subclass 419, for example.
- IV. Claims 1-14, 17-32, 53-55, drawn to a nucleic acid (SEQ ID NO:19) encoding AtNHX4, recombinant molecules and vectors containing that nucleic acid, transformed plant cell and plants containing that nucleic acid, and a method of making the transformed plant, classified in class 435, subclass 410, for example.
- V. Claim 48, drawn to a nucleic acid (SEQ ID NO:9) encoding a modified AtNHX, classified in class 536, subclass 23.1, for example.

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VI. Claims 15-16, drawn to oligonucleotides, classified in class 536, subclass 24.33, for example.

VII. Claims 33 and 49, drawn to AtNHX proteins, classified in class 530, subclass 370, for example.

Applicants are reminded that nucleotide sequences encoding different proteins are structurally distinct chemical compounds and are unrelated to one another. These sequences are thus deemed to normally constitute **independent and distinct** inventions within the meaning of 35 U.S.C. 121. Absent evidence to the contrary, each such nucleotide sequence is presumed to represent an independent and distinct invention, subject to a restriction requirement pursuant to 35 U.S.C. 121 and 37 CFR 1.141 et seq.

Upon election of a Group below, Applicant is additionally required to select a single nucleotide sequence for said Group. This requirement is not to be construed as a requirement for an election of species, since each nucleotide sequence is not a member of single genus of invention, but constitutes an independent and patentably distinct invention.

The inventions are distinct, each from the other because:

Inventions I-V and VII are unrelated. Inventions are unrelated if it can be shown that they are not disclosed as capable of use together and they have different modes of operation, different functions, or different effects (MPEP § 806.04, MPEP § 808.01). In the instant case the different inventions have different modes of operation and different functions. Each of inventions I-V are distinct from invention VII because the former require isolated DNA and methods for plant transformation and regeneration not required by the latter, while the latter requires isolated proteins not required by the former. Furthermore, the proteins of the latter

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invention could be made by a process other than the expression of the genes of I-V, such as chemical synthesis or purification from the natural source, and the DNA may be used for processes other than the production of protein, such as a nucleic acid hybridization assay.

Inventions I-V are unrelated to invention VI. The former could be used for synthesis of proteins and requires full-length coding sequences and methods of plant transformation and regeneration not required by the latter, while the latter could be used as primers for in vitro synthesis of DNA or, if encompassing a promoter sequence, for construction of general expression vectors.

Inventions I-V are unrelated to each other. The inventions have different functions on the basis of the differences in their respective nucleic acid sequences and the differences in the amino acid sequences of the proteins they encode.

Because these inventions are distinct for the reasons given above and have acquired a separate status in the art because of their recognized divergent subject matter, different classification and different fields of search, restriction for examination purposes as indicated is proper.

Applicant is advised that the reply to this requirement to be complete must include an election of the invention to be examined even though the requirement be traversed (37 CFR 1.143).

Applicant is reminded that upon the cancellation of claims to a non-elected invention, the inventorship must be amended in compliance with 37 CFR 1.48(b) if one or more of the currently named inventors is no longer an inventor of at least one claim remaining in the

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application. Any amendment of inventorship must be accompanied by a petition under 37 CFR 1.48(b) and by the fee required under 37 CFR 1.17(i).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Anne R. Kubelik whose telephone number is (703) 308-5059.

The examiner can normally be reached on Monday through Friday, 8:15 am - 4:45 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Paula Hutzell can be reached on (703) 308-4310. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 308-4242 for regular communications and (703) 308-4242 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0196.

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October 12, 2000

DAVID T. FOX
PRIMARY EXAMINER
GROUP 180

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David T. Fox